



## Complete Summary

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### TITLE

Heart failure in adults: percentage of adult heart failure patients who have ever had LVSD and were prescribed or were taking an ACEI or ARB within the last 12 months of the clinic visit, or who have contradictions to taking both ACEI or an ARB (primary care and outpatient cardiology).

### SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

## Measure Domain

### PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess the percentage of adult heart failure patients who have ever had left ventricular systolic dysfunction (LVSD) and were prescribed or were taking an angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin receptor blocker (ARB) within the last 12 months of the clinic visit, or who have contradictions to taking both ACEI or an ARB (primary care and outpatient cardiology).

### RATIONALE

The priority aim addressed by this measure is to optimize the pharmacologic treatment of patients with heart failure.

## PRIMARY CLINICAL COMPONENT

Heart failure; left ventricular systolic dysfunction (LVSD); angiotensin-converting enzyme inhibitor (ACEI); angiotensin receptor blocker (ARB)

## DENOMINATOR DESCRIPTION

Number of adult heart failure patients who have ever had left ventricular systolic dysfunction (LVSD) and had a clinic visit in the month in question (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

## NUMERATOR DESCRIPTION

Number of adult heart failure patients who ever had left ventricular systolic dysfunction (LVSD) who were prescribed or who were taking an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) within the last 12 months of the clinic visit (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

## Evidence Supporting the Measure

### EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Heart failure in adults.](#)

## Evidence Supporting Need for the Measure

### NEED FOR THE MEASURE

Unspecified

## State of Use of the Measure

### STATE OF USE

Current routine use

### CURRENT USE

Internal quality improvement

## Application of Measure in its Current Use

### **CARE SETTING**

Physician Group Practices/Clinics

### **PROFESSIONALS RESPONSIBLE FOR HEALTH CARE**

Physicians

### **LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED**

Group Clinical Practices

### **TARGET POPULATION AGE**

Age greater than or equal to 18 years

### **TARGET POPULATION GENDER**

Either male or female

### **STRATIFICATION BY VULNERABLE POPULATIONS**

Unspecified

## Characteristics of the Primary Clinical Component

### **INCIDENCE/PREVALENCE**

Heart failure is a major health problem in the United States, and the incidence of the disease is projected to increase. It was the most frequent diagnosis of Medicare patients discharged from the hospital in 2001. There are an estimated 5 million individuals currently diagnosed with heart failure, 550,000 new cases diagnosed annually, and 1 million people hospitalized annually (including readmission rates of 30 to 60%).

### **EVIDENCE FOR INCIDENCE/PREVALENCE**

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

### **ASSOCIATION WITH VULNERABLE POPULATIONS**

Unspecified

### **BURDEN OF ILLNESS**

There are over 260,000 annual deaths from heart failure. From 1979 to 2000 heart failure death rates have increased 148% and hospital discharges have increased 165%. The prognosis of patients with a new diagnosis of heart failure is poor. Senni et al. (1998) noted survival to be 86% at 3 months, 76% at one year, and only 35% at 5 years.

## **EVIDENCE FOR BURDEN OF ILLNESS**

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

Senni M, Tribouilloy CM, Rodeheffer RJ, Jacobsen SJ, Evans JM, Bailey KR, Redfield MM. Congestive heart failure in the community: a study of all incident cases in Olmsted County, Minnesota, in 1991. *Circulation* 1998 Nov 24;98(21):2282-9. [PubMed](#)

## **UTILIZATION**

See the "Incidence/Prevalence" field.

## **COSTS**

Unspecified

## **Institute of Medicine National Healthcare Quality Report Categories**

### **IOM CARE NEED**

Living with Illness

### **IOM DOMAIN**

Effectiveness

## **Data Collection for the Measure**

### **CASE FINDING**

Users of care only

### **DESCRIPTION OF CASE FINDING**

Adult heart failure patients who ever had left ventricular systolic dysfunction (LVSD)\* and who had a clinic visit during the month in question.

Data for the month in question cover the prior twelve months. Monthly data will be submitted quarterly.

The minimum sample size is 20 patients per month.

\*LVSD is defined quantitatively, as left ventricular ejection fraction less than 40%, and qualitatively, as moderately or severely depressed left ventricular systolic function.

## **DENOMINATOR SAMPLING FRAME**

Patients associated with provider

## **DENOMINATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

Number of adult heart failure patients\* who have ever had left ventricular systolic dysfunction (LVSD)\*\* and had a clinic visit\*\*\* in the month in question

\*International Classification of Diseases, Ninth Revision (ICD-9) codes 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.40, 428.41, 428.42, 428.43, 428.9 (Refer to the table, "Descriptions of ICD-9 Codes," in the original measure documentation for code descriptions.)

\*\*LVSD is defined quantitatively, as left ventricular ejection fraction less than 40%, and qualitatively, as moderately or severely depressed left ventricular systolic function.

\*\*\*The clinic visit is defined as an office visit with a physician, nurse practitioner or physician assistant. Education office visits may include a visit with a nurse.

### **Exclusions**

Exclude visits for the purpose of testing or device checks only.

## **RELATIONSHIP OF DENOMINATOR TO NUMERATOR**

All cases in the denominator are equally eligible to appear in the numerator

## **DENOMINATOR (INDEX) EVENT**

Clinical Condition  
Encounter

## **DENOMINATOR TIME WINDOW**

Time window is a single point in time

## **NUMERATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

Number of adult heart failure patients who ever had left ventricular systolic dysfunction (LVSD) who were prescribed or who were taking an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) within the last 12 months of the clinic visit

### **Exclusions**

- Patients less than 18 years of age

- Patients with potential contraindications or other reasons\* for the provider to not prescribe an ACEI
- Patients with potential contraindications or other reasons\* for the provider to not prescribe an ARB
- Hospice patients

\*Potential contraindications or other reasons for not prescribing an ACEI and a potential contraindications or other reasons for not prescribing an ARB at discharge include:

- ACEI and ARB allergy
- Moderate or severe aortic stenosis
- Physician, nurse practitioner, or physician assistant documentation of both a reason for not prescribing an ACEI and a reason for not prescribing an ARB
- ACEI allergy and physician, nurse practitioner, or physician assistant documentation for not prescribing an ARB
- ARB allergy and physician, nurse practitioner, or physician assistant documentation for not prescribing an ACEI
- Patient had a left ventricular assistive device (LVAD) or heart transplant procedure during hospitalization
- Patient reasons (refusal, financial hardship, side-effects, patient intolerance of both ACEI and an ARB through previous attempts with both, etc.)
- Pregnancy
- Hyperkalemia (ARB)
- Renal insufficiency (ACEI) or renal dysfunction (ARB)

## **MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS**

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## **NUMERATOR TIME WINDOW**

Fixed time period

## **DATA SOURCE**

Administrative data  
Medical record

## **LEVEL OF DETERMINATION OF QUALITY**

Individual Case

## **PRE-EXISTING INSTRUMENT USED**

Unspecified

## **Computation of the Measure**

## **SCORING**

Rate

## **INTERPRETATION OF SCORE**

Better quality is associated with a higher score

## **ALLOWANCE FOR PATIENT FACTORS**

Unspecified

## **STANDARD OF COMPARISON**

Internal time comparison

## **Evaluation of Measure Properties**

## **EXTENT OF MEASURE TESTING**

Unspecified

## **Identifying Information**

## **ORIGINAL TITLE**

Percentage of adult heart failure patients who have ever had LVSD and were prescribed or were taking an angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin receptor blocker (ARB) within the last 12 months of the clinic visit, or who have contradictions to taking both ACEI or an ARB (primary care and outpatient cardiology).

## **MEASURE COLLECTION**

[Heart Failure in Adults Measures](#)

## **DEVELOPER**

Institute for Clinical Systems Improvement

## **ADAPTATION**

Measure was not adapted from another source.

## **RELEASE DATE**

2007 Aug

## **MEASURE STATUS**

This is the current release of the measure.

## **SOURCE(S)**

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

## **MEASURE AVAILABILITY**

The individual measure, "Percentage of adult heart failure patients who have ever had LVSD and were prescribed or were taking an angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin receptor blocker (ARB) within the last 12 months of the clinic visit, or who have contradictions to taking both ACEI or an ARB (primary care and outpatient cardiology)," is published in "Health Care Guideline: Heart Failure in Adults." This document is available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

For more information, contact ICSI at, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; phone: 952-814-7060; fax: 952-858-9675; Web site: [www.icsi.org](http://www.icsi.org); e-mail: [icsi.info@icsi.org](mailto:icsi.info@icsi.org).

## **NQMC STATUS**

This NQMC summary was completed by ECRI Institute on December 16, 2007.

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